less than 10^{-4} mbar, at least one of ionization and dissociation of a gas containing carbon is induced in the magnetic mirror in a center of the deposition chamber, thus producing species that deposit on the substrate, which is heated.

28. (New) Process according to claim 27, comprising the following steps:

heating the substrate;

establishing a pressure less than or equal to 10^{-4} mbar of a gas containing carbon;

injecting the microwave power, and creating the plasma from the gas containing carbon, for a value of the magnetic field corresponding to the electron cyclotron resonance;

creating a potential between the plasma and the substrate;

at least one of dissociating and ionizing molecules in the magnetic mirror at the center of the deposition chamber; and

depositing the species formed on the substrate in order to obtain a web of carbon nanofibres or nanotubes.

29. (New) Process according to claim 28, in which the steps are carried out simultaneously.

30. (New) Process according to claim 27, in which the deposited carbon is a graphite type carbon with a minority proportion of sp3 bonds and a majority proportion of sp2 bonds.

31. (New) Process according to claim 27, in which the structure of the magnetic mirror is such that a magnetic field is maximum (B_{max}) at microwave injection, the magnetic field is minimum (B_{min}) at the center of the deposition chamber, and the magnetic field increases on the substrate ($B_{substrate}$).

32. (New) Process according to claim 27, in which a mirror ratio upstream at the microwave injection, defined by $r_1 = B_{max}$ (in Gauss) / B_{min} (in Gauss), is greater than 4.

33. (New) Process according to claim 27, in which a mirror ratio, downstream towards the substrate, defined by $r_2 = B_{substrate}$ (in Gauss) / B_{min} (in Gauss), is greater than or equal to 1.5.

34. (New) Process according to claim 27, in which the substrate is heated to a temperature of 500 °C to 750 °C.

35. (New) Process according to claim 27, in which the pressure is less than or equal to $8x10^{-5}$ mbar.

36. (New) Process according to claim 27, in which the gas containing gas is chosen from methane, ethane, ethylene, acetylene, and their mixtures, possibly supplemented with hydrogen.

37. (New) Process according to claim 27, in which the heating of the substrate is achieved by electron bombardment or external heating.

38. (New) Process according to claim 27, in which the injection of the microwave power takes place at a frequency of 2.45 GHz.

39. (New) Process according to claim 27, in which the substrate is positively polarized, preferably from +20 volts to +100 volts, and the plasma is connected to a frame.

40. (New) Process according to claim 27, in which the plasma is negatively polarized, preferably from -20 to -100 volts, and the substrate is connected to a frame.

41. (New) Device for depositing, by electron cyclotron resonance (ECR) plasma, films of carbon nanofibre webs onto a substrate without a catalyst, the device comprising:

a deposition chamber;

means for creating a magnetic structure with a strongly unbalanced magnetic mirror in the deposition chamber;

an electron cyclotron resonance zone within an interior of the deposition chamber and opposite the substrate;

means for injecting a microwave power into the deposition chamber; and

means for creating a pressure less than 10^{-4} mbar of a gas containing carbon within the interior of the deposition chamber.

42. (New) Device according to claim 41, further comprising means for heating the substrate.

43. (New) Device according to claim 41, further comprising means for creating a potential difference between the plasma and the substrate.

44. (New) Film, which may be on the substrate, formed of a web or network of interconnected carbon nanofibres or nanotubes, like a spider's web, the film being free of any catalyst.

45. (New) Film according to claim 44, in which the carbon is a graphite type carbon with a minority proportion of sp3 bonds and a majority proportion of sp2 bonds.

46. (New) Film according to claim 44, in which the web or network has an average mesh size of from one or several tens of nm to one or several hundreds of nm, preferably from 20 to 200 nm.

47. (New) Film according to claim 44, in which the average diameter of the nanofibres or nanotubes is from one or several nm to one or several tens of nm, preferably from 1 to 100 nm.

48. (New) Structure with several layers - or multi-layer structures - comprising at least two layers of carbon nanofibre or nanotube webs according to claim 44.

49. (New) Filter comprising at least one film according to claim 44, which may be on a substrate.

50. (New) Filter according to claim 49, in which the film is spread out over a rigid grid with larger mesh size.

51. (New) Electron accelerating or decelerating nanogrid comprising at least one film according to claim 44.

52. (New) Flat screen, in particular with large dimensions, comprising a film according to claim 44, which may be on a substrate.

53. (New) Filter comprising at least one multi-layer structure according to claim 48, which may be on a substrate.

54. (New) Filter according to claim 53, in which the multi-layer structure is spread out over a rigid grid with larger mesh size.

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55. (New) Electron accelerating or decelerating nanogrid comprising at least one multi-layer structure according to claim 48.

56. (New) Flat screen, in particular with large dimensions, comprising at least one multi-layer structure according to claim 48, which may be on a substrate.

IN THE ABSTRACT

Please amend the Abstract on page 34 as follows: